Appl. No. 09/808,875
Amd dated May 20, 2004
Reply to Office Action of March 22, 2004

<div align="center">

REMARKS

</div>

This amendment is responsive to the final Office Action dated March 22, 2004.
Applicant has amended claims 1, 8, 9, 16, 23, 28, 30, 31, 35, 37, 38, 41 and 43. Claims 1-43 are still pending.

The Current Amendments Raise No New Issues

Applicant respectfully requests entry of the amendments to claims 1, 8, 9, 16, 23, 28, 30, 31, 35, 37, 38, 41 and 43. The proposed amendments do not raise new issues and should not require any additional search by the Examiner. The proposed amendments are meant to clarify that Applicant's invention is directed to *the adjustment* of device-independent coordinates in a specific device-independent color space, as opposed to a conversion from one device-independent color space to another. The proposed amendments also ensure that the pending claims 1-42 clarify that the adjustment of the device-independent coordinates is based on a white point correction and a chromatic correction. The features presented in this amendment were inherent in many previously presented claims, e.g., claim 16 as presented in the last response. In this sense, the current amendments to claim 16 adds additional clarity, but does not affect the scope of claim 16, and is therefore unrelated to patentability of claim 16.

As the current amendments clarify an inherent feature that was previously presented in Applicant's claims, Applicant believe that the current amendments do not raise new issues and should not require any additional search by the Examiner. Therefore, Applicant respectfully requests entry of the amendments.

The only pending claim that does not currently require an adjustment of device-independent coordinates based on a white point correction and a chromatic correction is claim 43. Claim 43 recites a computer readable medium comprising a color profile data structure thereon, the color profile data structure corresponding to a display device and including adjusted device-independent illuminant condition values that do not correspond to actual device-independent illuminant conditions associated with the display device, such that colors rendered on the display device using the color profile data structure are visually equivalent to colors rendered on a printing device.

<div align="center">

-11-

</div>

Appl. No. 09/808,875
Amd dated May 20, 2004
Reply to Office Action of March 22, 2004

The Current Amendments Place All Pending Claims in Condition for Immediate Allowance

Applicant believes that the current amendments place all pending claims in condition for immediate allowance. Each of claims 1-42 require the adjustment of device-independent coordinates based on a white point correction and a chromatic correction. As one example, claim 16 recites a method comprising converting device-dependent coordinates that define a color in a printing device to device-independent coordinates in a device-independent color space, adjusting the device-independent coordinates in the device-independent color space using a white point correction and a chromatic correction, and converting the adjusted device-independent coordinates in the device-independent color space to device-dependent coordinates that define a color in a display device. Independent claims 1, 9, 16, 23, 28, 30, 31, 35, 37, 38, 41 similarly recite the adjustment of device independent coordinates based on a white point correction and a chromatic correction.

The adjustment of device-independent coordinates based on a white point correction and a chromatic correction is not disclosed or suggested in the applied prior art, and is generally contrary to well established principles in the field of color correction. Device-independent coordinates are conventionally considered just that, device-independent. Therefore, conventional wisdom does not suggest any adjustment to device-independent coordinates within a given device-independent color space. As outlined in Applicant's specification, however, an adjustment to device-independent coordinates within a device-independent color space can adjust for Applicant's perceived breakdown in principles of color theory accepted by well established, conventional CIE standards. Applicant's claimed invention makes this adjustment to device-independent coordinates in the device independent color space based on a white point correction and a chromatic correction. These features are clearly lacking from the applied Marsden reference.

For example, the Marsden reference, cited by the Examiner in rejecting claims 1-43 under 35 U.S.C. §102, does not even disclose or suggest the adjustment of device-independent coordinates in a device-independent color space whatsoever, much less an adjustment based on a

-12-

Appl. No. 09/808,875
Amd dated May 20, 2004
Reply to Office Action of March 22, 2004

white point correction and a chromatic correction, as claimed. Marsden describes gamut correction techniques that modify a conversion process of converting from RGB to CMYK when the gamut of the printing device is not sufficient to accurately render some colors. The conversion process described in Marsden shows conversion from XYZ to CMYK, including a step in which XYZ is converted to Lab, which are both device-independent coordinate systems. For out of gamut colors, Marsden uses different coordinates and different conversions from XYZ' to CMYK', including a conversion from XYZ' to Lab'. However, Marsden clearly lacks any suggestion of the adjustment of device-independent coordinates within a device-independent color space, e.g., from XYZ to XYZ' or from Lab to Lab', as required by Applicants claims. Accordingly, Marsden clearly lacks any suggestion of the adjustment of device-independent coordinates within a device-independent color space based on a white point correction and chromatic correction, as claimed.

The Examiner cited paragraph 12, lines 10-18 of Marsden as disclosing the adjustment of device-independent coordinates based on a white point correction and chromatic correction. However, this passage of Marsden, at paragraph 12, lines 10-18, does not describe the adjustment of device-independent coordinates in a device-independent color space, whatsoever. Instead, this passage of Marsden describes a redefined RGB transformation process, specifically used for out of gamut colors. Accordingly, Marsden does not contemplate any adjustments of device-independent coordinates in a device-independent color space, whatsoever, much less adjustments of device-independent coordinates in a device-independent color space based on a white point correction and a chromatic correction, as claimed.

Applicant's invention is generally premised on the notion that device-independent coordinates do not accurately describe color independently of the rendering device. This is counterintuitive with respect to Marsden and generally contrary to well established principles in the field of color correction. Moreover, this phenomenon discovered by Applicant is most apparent in soft proofing environments where hard copy proofs are instead rendered on display devices. Applicant's claimed invention generally requires the adjustment of device-independent coordinates in a device-independent color space based on a white point correction and a chromatic correction. While Applicant believes that these features have been present in the claims to date, the current amendment is meant to further clarify that the adjustment occurs

-13-

Appl. No. 09/808,875
Amd dated May 20, 2004
Reply to Office Action of March 22, 2004

within a device-independent color space, e.g., from XYZ to XYZ' or from Lab to Lab'. In this sense, the current claims even more clearly distinguish the Marsden reference, which performs an XYZ to Lab *conversion* rather than an XYZ to XYZ' *adjustment* within a common color space. The adjustments, as recited in applicants claims, are performed within a device-independent color space and are based on a white point correction and a chromatic correction.

Applicants also dispute the Examiner's characterization of the Marsden reference as disclosing the use of a white point correction matrix and a chromatic correction matrix. These features are recited, for example, in dependent claims 2 and 19, as well as many other dependent claims.

The Examiner stated that Marsden discloses the use of a white point correction matrix and a chromatic correction matrix, citing a passage of Marsden which describes the conversion of coordinates from RGB to XYZ. A conversion matrix that converts from RGB to XYZ, such as that used in Marsden, is nothing akin to correction matrices that convert within a device-independent coordinate system, e.g., from XYZ to XYZ'. Moreover, nothing in Marsden suggests the bifurcation of matrix correction of device-independent coordinates via the use of a separate white point correction matrix and a chromatic correction matrix.

In fact, as addressed above, Marsden even fails to suggest the bifurcated correction of device-independent coordinates via the use of a separate white point correction and a chromatic correction whatsoever, with or without use of matrices. Again, each of independent claims 1, 9, 16, 23, 28, 30, 31, 35, 37, 38, 41 recite the use of separate white point correction and a chromatic correction in generating the adjusted device-independent coordinates within a device-independent color space. This feature is clearly lacking from the teaching of Marsden. Accordingly, the rejections of claims 1, 9, 16, 23, 28, 30, 31, 35, 37, 38, 41 are improper and should be withdrawn.

With respect to Applicants claims that recite the use of a white point correction matrix and a chromatic correction matrix, the Examiner appears to have rejected these claims in reliance on a passage of Marsden that describes a conventional matrix conversion of coordinates from RGB to XYZ. Applicants respectively submit that the matrices described in Marsden are clearly not a white point correction matrix and a chromatic correction matrix, as recited in dependent claims 2 and 19. Thus, with respect to claims 2 and 19, Marsden lacks at least three substantial

-14-

features of these claims. First, Marsden does not describe the adjustment of device-independent coordinates in a device-independent color space. Second, Marsden does not describe the adjustment of device-independent coordinates in a device-independent color space based on a white point correction and a chromatic correction. Third, Marsden does not describe the use of a white point correction matrix and a chromatic correction matrix. The rejections of claims 2 and 19 are clearly improper and should be withdrawn.

Independent claim 43 recites a computer readable medium comprising a color profile data structure thereon, the color profile data structure corresponding to a display device and including adjusted device-independent illuminant condition values that do not correspond to actual device-independent illuminant conditions associated with the display device, such that colors rendered on the display device using the color profile data structure are visually equivalent to colors rendered on a printing device.

In rejecting claim 43, the Examiner cited column 7, lines 15-18 of Marsden as disclosing a computer readable medium including adjusted device-independent illuminant condition values that do not correspond to actual device-independent illuminant conditions associated with the display device. This passage of Marsden, however, does not appear to discuss illuminant conditions whatsoever, much less adjusted device-independent illuminant condition values that do not correspond to actual device-independent illuminant conditions associated with the display device. Accordingly, Applicant believes that the rejection of claim 43 is also inappropriate and should be withdrawn.

Conclusion

In summary, Applicant's claims 1-42 recite the generation or use of adjusted device-independent coordinates, e.g., an adjustment from XYZ coordinates to XYZ' coordinates, based on a white point correction and a chromatic correction. As outlined in Applicant's specification, these adjustments can address Applicant's perceived breakdown in color theory, as accepted by CIE standards.

None of the applied references recognize this breakdown in color theory. Moreover, none of the applied references discloses or suggests the adjustment of device-independent coordinates in a device-independent color space based on a white point correction and a chromatic correction,

-15-

Appl. No. 09/808,875
Amd dated May 20, 2004
Reply to Office Action of March 22, 2004

as recited in Applicant's claims 1-42. With respect to claims 2 and 19, Marsden also lacks any suggestion of the use of separate matrices for white point and chromatic corrections.
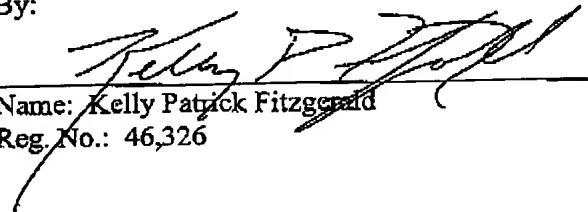
With respect to various other features in various independent and dependent claims, Applicant also disputes the Examiner's characterizations of the prior art. Applicant does not acquiesce to any of the rejections of any of the claims or the Examiner's characterizations of the prior art with respect to those claims. With respect to claim 43, Applicant submits that the passage of Marsden cited by the Examiner in rejecting this claim does not discuss illuminant conditions whatsoever, much less the features of claim 43, which require adjusted device-independent illuminant condition values that do not correspond to actual device-independent illuminant conditions associated with the display device.

Applicant believes that all claims in this application are in condition for immediate allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date: By:

Mar 20, 2004   Name: Kelly Patrick Fitzgerald
SHUMAKER & SIEFFERT, P.A.   Reg. No.: 46,326
8425 Seasons Parkway, Suite 105
St. Paul, Minnesota 55125
Telephone: 651.735.1100
Facsimile: 651.735.1102

-16-